

# How to do risk assessments so you don't get asked again

Les Hatton  
CISM, University of Kingston\*

February 16, 2010

## Abstract

By popular request, I have split this out of a much larger document. It is issued as a public service for those of us who are asked to do risk assessments for those of us who don't understand them but feel they might be missing out on something if they don't have one.

## 1 The gentle art of risk assessment avoidance

Unless you can avoid it by other means, you may get asked to do one of these at some stage. The requester is usually an entity like Human Resources or one of the many quangos which have grabbed hold of the concept in a desperate bid for numerical respectability and the opportunity to justify their existence without ever understanding the true nature of risk assessment.

### 1.1 A little essential background for Human Resources

Although people join Human Resources to avoid evils like multiplication it is useful to know that mathematicians seek to quantify Risk using the Risk equation:-

$$R = F.C \tag{1}$$

where R is the Risk, F is the frequency and C is the consequence. Since F has the dimensions of  $s^{-1}$  it is convenient to think of C as how long in seconds we will suffer bad consequences. This makes R conveniently dimensionless. It is

---

\*L.Hatton@kingston.ac.uk, lesh@oakcomp.co.uk

simple to see that something that occurs a lot (F big) with low consequences (C small), has a similar risk to something that doesn't occur very often (F small) but has big consequences (C big). So  $10000000 \times 1$  is the same as  $1 \times 10000000$ .

## 1.2 Some big Consequences

A glance at the web-site for the Large Hadron Collider<sup>1</sup> reveals various attempts to quantify the risk of black-hole production ending the universe by comparing the scale of LHC experiments with those the universe itself does all the time without any apparent ill effects other than the appearance of ever stranger Celebrity shows on television. The summary of these is that the frequency of any catastrophic event is very, very tiny. It is however not zero. A glance at the risk equation reveals that since C is infinite, then R must be infinite too. This is the key. (Note that I am assuming that if the universe suddenly chooses to disappear in a puff of logic, we don't have to go through it all again.)

## 1.3 How to fill in the risk assessment

Enter the following as your risk assessment

Event	Frequency	Consequence	Risk (=F.C)
End of Universe	Very small	Infinite	Infinite
All other risks are irrelevant			

All you have to do is to send this to Human Resources and wait for the phone call. The presence of the equation will panic them but if they reply that you are not taking this seriously enough, you can tell them you take the end of the Universe very seriously. I know I do.

---

<sup>1</sup><http://public.web.cern.ch/public/en/LHC/Safety-en.html>